

USSR

UDC 621.039

BOBROV, S. B., MUROGOV, V. M., TOCHENYY, L. V., and SHMELEV, A. N.

"High-Power Fast Reactor With a Stable Heat Release Field Throughout a Run"

V sb. Fiz. yadern. reaktorov (Physics of Nuclear Reactors -- Collection of Works), No. 2, Moscow, Atomizdat, 1970, pp 129-135 (from RZh-Fizika, No 4, Apr 71, Abstract No 4V535)

Translation: Computational studies of a fast power reactor with an electric power of 1000 Mw with Na coolant in which radial balancing of the heat release field is achieved by the use of different types of fuel in the core are presented: in the inner portion  $\text{PuO}_2\text{-UO}_2$  with an average density of  $8 \text{ g/cm}^3$  and in the outer portion the alloy  $\text{Pu-U-Zr}$  (12%) with a Pu-U density of  $15.1 \text{ g/cm}^3$ . The calculations were made with the 18-RZ-4-B program considering the change in the isotope composition with time. The results show that fuel productivity improves in this reactor as compared with a purely oxide version (the average conversion coefficient in the core is  $\sim 1$ ) and the change in reactivity over the run also decreases (by a factor of 4) and does not exceed 0.3%. The coefficient of nonuniformity and the heat release profile throughout the run are almost constant and less in

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BOBROV, S. B., et al, Fiz. yadern. reaktorov, No. 2, Moscow, Atomizdat, 1970,  
pp 129-135

absolute value than for the purely oxide version. It is also shown that maximum burn-up achievable simultaneously for both forms of fuel (~10% for oxide and ~5% for metallic fuel) corresponds to the permissible burning depths, so that a simple method of simultaneous recharging of the entire core can be applied for this reactor. V. P. Demin.

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UDC 621.039

BOBROV, S. B., MUROGOV, V. M., TOCHENYY, L. V., and SHMELEV, A. N.

"Possibility of the Stabilization of the Heat Release Field in Fast Power Reactors Operating in a Mixed Fuel Cycle"

V sb. Fiz. yadern. reaktorov (Physics of Nuclear Reactors -- Collection of Works), No 2, Moscow, Atomizdat, 1970, pp 121-128 (from RZh-Fizika, No 4, Apr 71, Abstract No 4V536)

Translation: The physical characteristics are calculated for a fast reactor that is optimal with respect to breeding, with a heat capacity of 2500 Mw on mixed fuel ( $U^{233}$ ,  $Pu^{239}$ ,  $U^{238}$ , Th) and profiling of the heat release field by developing zones of different enrichment with the preservation of a fixed amount of fuel by volume in the core. Calculations of the heat release field were made for reactors of the BN-1000 type in zones of different enrichment, taking into consideration changes in the isotope composition of the fuel and changes in the neutron spectrum and flux during the run (with the 18-RZ-4-B program). It was found that balancing of the heat release with a change in enrichment of the mixed fuel makes it possible to reduce the radial coefficient of nonuniformity (from 1.8 to 1.2), increase the breeding coefficient 1/2

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BOBROV, S. B., et al, Fiz. yadern. reaktorov (Physics of Nuclear Reactors -- Collection of Works), No 2, Moscow, Atomizdat, 1970, pp 121-128 (from RZh-Fizika, No 4, Apr 71, Abstract No 4V536)

(from 1.3 to 1.5), and also to reduce the doubling time (from 11-12 to ~7 years). The change in the heat release profile in the course of a run of a fast reactor on mixed fuel is determined by the relationship of the zone breeding coefficients and the difference in the fission cross sections of the burned and accumulated isotopes. V. P. Demin.

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USSR

UDC: 622.24.051.553

Turov, L. N., Bobrov, S. N., Lyukshin, P. M., Smirnov, V. P.

"Industrial Testing of Type V-97T Drill Bits with Noncase-hardened Steel Cutters"

Moscow, Bureniye, No 6, 1972, pp 3-4.

Abstract: The Moscow Institute of the Petrochemical and Gas Industry imeni I. M. Gubkin has developed drill bit cutters of noncase-hardened steel, referred to as type D7KhFNSh. V-97T drill bits have been made using these cutters. The cutters were hardened in oil (from 840-860°C) then low tempered (at 180-200°C). The bits have been subjected to test stand and field testing, and have shown test results some 30-40% higher than the series produced bits with cutters of type 17N3MASSh steel.

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1/2 013 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--SPECIFIC FEATURES OF THE MECHANICAL PROCESS OF CUTTING USING CUP  
TYPE CUTTERS WITH FORCED ROTATION -U-  
AUTHOR-(02)-BOBROV, V.F., IYERUSALIMSKIY, D.YE. B  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY, MASHINOSTROYENIYE,  
NO. 1, 1970, PP. 130-134  
DATE PUBLISHED-----70  
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR  
TOPIC TAGS--METAL CUTTING, ALLOY DESIGNATION/(U)ZKH13 CHROMIUM STEEL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1985/0521 STEP NO--UR/0145/70/000/001/0130/0134  
CIRC ACCESSION NO--AT0100980  
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--ATO100980

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF THE FORCED DISPLACEMENT ALONG ITSELF OF THE CUTTING EDGE OF A CUP TYPE CUTTER ON THE AMOUNT OF CHIP DEFORMATION, ON THE FORCES ACTING ON THE FRONT SURFACES OF THE TOOL, AND ON THE CUTTING OPERATION AND ITS COMPONENTS ARE EXAMINED. EXPERIMENTS WERE UNDERTAKEN IN THE MACHINING OF ZKH13 STEEL, AND THE RESULTS INDICATE THAT THE PROCESS OF THE TRANSFORMATION OF THE MACHINED LAYER INTO A CHIP, WHEN CUTTING WITH A FORCED ROTATION CUP TYPE CUTTER WITH A CUTTING EDGE INCLINE ANGLE OF 0DEGREES, IS A PROCESS OF ANGULAR CUTTING WITH A CONSTANT CUTTING EDGE LENGTH. IN COMPARISON WITH ORDINARY ANGULAR CUTTING, THE SPECIFIC FEATURES OF THIS PROCESS ARE THAT THE INCLINE ANGLE OF THE CUTTING EDGE DEVELOPS KINEMATICALLY FOR A DEFINITE CUP ROTATION SPEED AND THAT NEW PORTIONS OF THE CUTTING SURFACE COME INTO CONTACT WITH THE LAYER BEING CUT DURING EACH ROTATION OF THE CUTTER. ALMOST ALL THE ATTRIBUTES OF ANGULAR CUTTING ARE INHERENT IN THIS PROCESS, AND IT IS ACHIEVED BY GIVING THE TOOL A STATIC ANGLE UNEQUAL TO ZERO. AN EXCEPTION IS THE MORE NOTICABLE DECREASE IN FRICTION FORCES OVER NORMAL FORCES, WITH AN INCREASE IN THE TOOL WORKING ANGLE. THIS LEADS TO A DECREASE IN THE MEAN FRICTION COEFFICIENT, AND NOT AN INCREASE AS IS THE CASE IN ORDINARY ANGULAR CUTTING..

UNCLASSIFIED

USSR

UDC 632.954:543.544

BOBROVA, V. I., and BERNATSKAYA, L. S., All Union Scientific Research Institute of Hygiene and Toxicology of Pesticides, Polymers, and Plastic Masses

"A Method for the Determination of Hexylur in Water, Soil and in Products Derived from Plants"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 10, No 9 (119), 1973, pp 58-59

Abstract: A thin layer chromatographic method has been developed for the analysis of hexylur -- an analogue of lenacyl -- contained in water soil and plant products. The analytical sample is subjected to photochemical decomposition, followed by chlorination and observation of chloroderivatives formed with orthotolidine directly on the plates. In case of water the sensitivity of this method is 0.025 mg/l, for soil and plant products it is 0.050-0.1 mg/l. Average  $R_f$  value out of 12 determinations is  $0.52 \pm 0.05$ .

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Acc. Nr:

AP0049808

Abstracting Service:

INTERNAT. AEROSPACE ABST 5-70

Ref. Code:

4R0170

B  
A70-23870 # Temperature field in a polymer material during its multiple heating (Temperaturnoe pole v polimernom materiale pri mnogokratnom ego nagreve). A. T. Nikitin and V. I. Bobrov. Inzhenerno-Fizicheskii Zhurnal, vol. 18, Jan. 1970, p. 139-145. In Russian.

Investigation of the repeated heating from within of a two-layer cylinder consisting of a polymer material and an outer shell made of a heat conducting material. A heat conduction equation is derived for the polymer material which accounts for its decomposition and for the heat effects arising in this process. The problem is solved for temperature-dependent thermophysical characteristics. Results obtained with a computer show that the polymer acts as a blocking layer to temperatures higher than 673 deg K due to its decomposition.

T.M.

REEL/FRAME

19801730

USSR

BOBROY, V. N., Institute of Terrestrial Magnetism, the Ionosphere and Radio Wave Propagation, Academy of Sciences USSR

"Z-Magnetometer"

USSR Author's Certificate No 356613, Cl. G 01v 3/00, filed 18 Jun 71, published 23 Oct 72 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 32, 1972, pp 135-136

Abstract: The Z-magnetometer, with a magnetosensing element whose braces have a permanent magnet and a mirror attached to them, is unique in that, in order to increase accuracy and expand functional capabilities, an additional element which is sensitive to temperature variations is introduced, consisting of a mirror and a small shaft made of quartz, which are attached to the twisted horizontal braces.

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1/3 019 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--QUARTZ MAGNETIC VARIOMETER -U-  
AUTHOR--BOBROV, V.N. *B*  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, GEOMAGNETIZM I AERONOMIYA, VOL X, NO 3, 1970, PP 562-563  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY  
TOPIC TAGS--MAGNETIC FIELD, TILTMETER, MAGNETOMETER, QUARTZ, GEOPHYSIC  
INSTRUMENT  
  
CONTROL MARKING--NO RESTRICTIONS  
  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3007/1635 STEP NO--UR/0203/70/010/003/0562/0563  
CIRC ACCESSION NO--AP0136903  
UNCLASSIFIED

2/3 019

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136903

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHOR DESCRIBES A NEW DESIGN OF A QUARTZ MAGNETIC VARIOMETER WHOSE SENSING SYSTEM HAS BEEN SUPPLEMENTED WITH A QUARTZ TILTMETER (SEE V. N. BOBROV, GEOMAGN. I AERONOMIYA, 9, 1969, 582). IT CONSISTS OF AN ENCLOSED SEALED HOUSING, ATTACHED TO A SUPPORT BY ADJUSTING SCREWS. WITHIN THE HOUSING THERE IS A QUARTZ SYSTEM CONTAINING A QUARTZ SENSING ELEMENT AND A SUSPENSION MAGNETICALLY SENSITIVE SYSTEM HAVING A PERMANENT MAGNET AND A QUARTZ MIRROR, DESIGNED FOR REGISTRY OF MAGNETIC VARIATIONS; THERE IS A QUARTZ SENSING ELEMENT WITH A SUSPENSION SYSTEM WHICH CONSISTS OF A QUARTZ MIRROR AND A QUARTZ SHAFT WHOSE CENTER OF GRAVITY IS DISPLACED RELATIVE TO THE AXIS OF ROTATION AND WHICH IS FOR MEASURING TILTS OF THE AXIS OF ROTATION IN THE DIRECTION OF THE REGISTERED MAGNETIC COMPONENT. THERE IS A FIXED QUARTZ MIRROR FOR CHECKING ON THE PROPER ORIENTATION OF THE SUSPENDED MAGNETIC SYSTEM AND ITS AXIS OF ROTATION RELATIVE TO THE DIRECTION OF THE REGISTERED MAGNETIC COMPONENT AND ALSO FOR READING MAGNETIC FIELD CHANGES AND TILTS OF THE AXIS OF ROTATION DURING THE CONTINUOUS REGISTRY OF MAGNETIC VARIATIONS AND TILTS. THE ADJUSTMENT OF BOTH SENSING ELEMENTS IS DONE IN SUCH A WAY THAT AT THE TIME OF THE PROPER ORIENTATION OF THE SUSPENDED MAGNETIC SYSTEM AND ITS AXIS OF ROTATION RELATIVE TO THE REGISTERED COMPONENT THE IMAGES FROM THE THREE QUARTZ MIRRORS ARE AT A VERY DEFINITE DISTANCE FROM ONE ANOTHER. THE FIRST EXPERIMENTAL MODELS WERE FABRICATED IN 1966 (SEE V. N. BOBROV, GEOMAGN. I AERONOMIYA, 8, 1968, 389).

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UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136903

ABSTRACT/EXTRACT--QUARTZ MAGNETIC VARIOMETERS WITH FILTMETERS CAN BE USED  
EXTENSIVELY IN THE REGISTRY OF MAGNETIC VARIATION IN THE FIELD, IN SEA  
VARIATION STATIONS AND MAGNETOMETERS. FACILITY: INSTITUTE OF  
TERRESTRIAL MAGNETISM, IONOSPHERE AND RADIO WAVE PROPAGATION.

UNCLASSIFIED

1/2 014

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--INFLUENCE OF THE VARIATIONS OF THE GEOMAGNETIC FIELD'S  
PERPENDICULAR COMPONENT ON READINGS OF A QUARTZ VARIOMETER -U-  
AUTHOR--(02)-BOBROV, V.N., BURTSEV, YU.A.

COUNTRY OF INFO--USSR

SOURCE--GEOMAGNETIZM I AERONOMIJA, VOL.-10, NO. 2, 1970, P. 377-379

DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--GEOMAGNETIC FIELD, GEOPHYSIC INSTRUMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0164

STEP NO--UR/0203/10/010/002/0377/0272

CIRC ACCESSION NO--AP0119160

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70  
CIRC ACCESSION NO--AP0119160  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION OF THE MAGNITUDE OF  
ERRORS WHICH CAN ARISE DUE TO FIELD VARIATIONS ORIENTED PERPENDICULARLY  
TO THE MEASURED FIELD COMPONENT AND TO THE SUSPENDED MAGNET'S AXIS OF  
ROTATION IN A HIGH SENSITIVITY QUARTZ VARIOMETER. A GRAPH OF THE  
NECESSARY CORRECTIONS FOR THE EFFECTS OF THE VARIATIONS IS GIVEN FOR  
VARIOMETERS WITH SCALE DIVISIONS OF 0.5, 1.0, AND 2.0 GAMMA-MM M.  
FORMULAS ARE GIVEN FOR THE EXPECTED ERROR AS A FUNCTION OF THE INSTRUMENT  
PARAMETERS AND MAGNITUDE OF DISTURBING VARIATIONS. FACILITY:  
AKADEMIIA NAUK SSSR INSTITUT ZEMNOGO MAGNETIZMA, IONOSFERY I  
RASPROSTRANENIIA RADIOVOLN, KRASNAYA PAKHRA, USSR.

UNCLASSIFIED

USSR

UDC 621.35:66.094.173

BOBROVA, A. N. and POPOV, O. S.

"Using the Reactor Body Made of Stainless Steel Kh18Ni9Ti as Sensor of the Catalyst Potential During Electrochemical Studies of Liquid-Phase Hydrogenation"

Tr. Kalinin. politekhn. in-ta (Collection of Works of Kalinin Polytechnical Institute), Vyp 13, 1972, pp 147-150 (from Referativnyy Zhurnal -- Khimiya, No 21(II), 1972, Abstract No 21 L275 by E. Z. Napukh)

Translation: The obtained experimental results made it possible to establish that the steel electrode is neutral and reversible with respect to  $H^+$ . Identity in the potential changes of steel and Pt electrodes occurring with the use of powdered catalyst (skeletal Ni) makes it feasible to use steel Kh18Ni9Ti as a potential sensor of a catalyst during the electrochemical studies of catalytic hydrogenation reactions in the liquid phase which is indifferent to the reactor material.

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1/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--FRACTIONATION OF GLYCOGEN ON DEAE CELLULOSE COLUMNS -U-  
AUTHOR-(02)-BOBROVA, L.N., STEPANENKO, B.N.  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. AKDA. NAUK SSSR, 1970, 191(2), 468-71  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--GLYCOGEN, CELLULOSE, FRACTIONATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY FICHE NO----FD70/605006/F01 STEP NO--UR/0020/70/191/002/0468/0471  
CIRC ACCESSION NO--AT0139812  
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0139812

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELUTION PROFILES WERE SHOWN FOR VARIOUSLY TREATED SPECIMENS OF GLYCOGEN. ACID AND BASIC TREATMENTS DESTROY GLYCOGEN TO SOME DEGREE. CHROMATOG. OF DEAE CELLULOSE IS AN EFFECTIVE METHOD OF FRACTIONATION OF SUCH GLYCOGEN SPECIMENS WHEN THE CL PRIME NEGATIVE FORM OF THE PACKING IS USED AND ELUTION WITH SALT SOLN. IS EMPLOYED IN THE FORM OF LIOL OF INCREASING CONCN. FACILITY: INST. BIOKHM. IM. BAKHA, MOSCOW, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--STRUCTURE FORMATION IN GELATIN GELS -U-  
AUTHOR-(03)-IZMAYLOVA, V.N., BOBROVA, L.YE., REBINDER, P.A.  
COUNTRY OF INFO--USSR **B**  
SOURCE--DOKL. AKAD. NAUK SSR 1970, 190(4), 876-9 (PHUS CHEM)  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--BIOLOGGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--PROCESSED ANIMAL PRODUCT, GEL, MOLECULAR STRUCTURE, LIGHT  
SCATTERING  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1989/1574 STEP NO--UR/0020/70/190/004/0876/0879  
CIRC ACCESSION NO--AT0107994  
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AT0107994

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE STRUCTURE FORMATION IN GELATIN (I) GEL IS REGULATED BY THE SAME BASIC PRINCIPLES AS STRUCTURE FORMATION IN SOLNS. OF A LOW MOL. WT. COMPD. THIS IS RELATED TO THE BIPHYLICITY OF THE PROTEIN AND WITH THE HIGH ORDER OF ITS MACROMOL. THE DEPENDENCE OF THE LIGHT SCATTERING INTENSITY ON I CONCN. IN 0.15M NaCl AND 8M UREA SOLNS. IS GIVEN GRAPHICALLY. THE RATE OF LIGHT SCATTERING INCREASE IN SATD. I SOLNS. IS HIGHER AT LOW TEMP. (AT INCREASING SUPERSTN. OF I SOLNS.). HEAT OF I GEL FORMATION IS 49-58 KCAL-MOLE. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 669.018.95

ANTSIFEROV, V. N., ~~BOBROVA, S. N.~~

"Type V2Zh Metal Ceramic Alloy"

Kiev, Poroshkovaya Metallurgiya, No 8, Aug, 1972, pp 21-24.

Abstract: This work presents an attempt to produce a V2Zh-type alloy by powder metallurgy methods. The chemical composition of the alloy produced is 2.2% C, 0.7% Si, 18% Cr, 16% Mo, remainder Fe. The microstructure of the alloy is distinguished by the homogeneous fine-grained structure, and high hardness of structural components, greater than the microhardness of the phases of cast V2Zh alloy. Optimal modes for the manufacture and heat treatment of the alloy are suggested.

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USSR

**B**  
YAVILOV, V. S.; BORISOVA, Ye. A.; GALKIN, G. N. (Lobachev Physics Institute of USSR Academy of Sciences, Moscow)

"Light Reflection in the Infrared Region from Silicon with a High Concentration of Nonequilibrium Carriers"

Leningrad, Solid State Physics; April, 1970; pp 1232-5

ABSTRACT: The variation of the coefficient of reflection  $R$  from unalloyed silicon at room temperature on a wave length of  $10.6 \mu$  as a function of the level of excitation with a ruby laser was studied. It was observed that with an increase in the level of excitation  $R$  decreased from 30 to 19%, then increased to 50%. From data on the minimum on the reflection curve it was possible to draw a conclusion concerning the predominance of electron-hole scattering. A relaxation time on the order of  $10^{-14}$  seconds was obtained for the minimum value of  $R$ . The concentration of nonequilibrium carriers  $\Delta n = \Delta p = 2 \cdot 10^{19} \text{ cm}^{-3}$ , corresponding to the minimum on the reflection curve, was determined.

The article includes 5 equations and 2 figures. There are 9 bibliographic references.

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1/2 056  
TITLE--EFFICIENCY OF THE RECOMBINATION RADIATION OF LASER IRRADIATED  
GERMANIUM -U-  
AUTHOR-(02)-BOBKOVA, YE.A., GALKIN, G.N.  
COUNTRY OF INFO--USSR  
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 368-70  
DATE PUBLISHED--70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--RECOMBINATION RADIATION, LASER RADIATION, LASER PULSE, RUBY  
LASER, GERMANIUM, ETCHED CRYSTAL, RADIATION INTENSITY, RECOMBINATION  
COEFFICIENT, CARRIER DENSITY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1988/0095  
STEP NO--UR/0449/70/004/002/0368/0370  
CIRC ACCESSION NO--AP0105181  
UNCLASSIFIED

2/2 056

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0105181

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RECOMBINATION RADIATION WAS STUDIED FROM PURE GE (IN SUBO, P SUBO 10 PRIME13-CM PRIME3) IRRADIATED BY PULSES (40 NSEC) FROM A RUBY LASER (LAMBEA EQUALS 0.69 MU) WITH INTENSITY OF 5 TIMES 10 PRIME12-5 TIMES 10 PRIME14 KW-CM PRIME2-SEC. THE POLISHED SAMPLES WERE ETCHED BEFORE THE MEASUREMENTS AND THE NONEQUIL. CARRIER CONC. REACHED 4 TIMES 10 PRIME17-5 TIMES 10 PRIME18-CM PRIME3. THE EFFICIENCY OF THE RADIATION, BETA, UNDER STEADY STATE CONDITIONS IS (0.4-0.7) TIMES 10 PRIME NEGATIVE3 IN THE INTENSITY REGION STUDIED. THE RECOMBINATION RADIATION IS DUE TO INDIRECT INTERBAND TRANSITIONS. FOR SUCH TRANSITIONS, THE COEFF. OF RADIATIVE RECOMBINATION IS CALCD. AS 0.65 TIMES 10 PRIME NEGATIVE13 CM PRIME3-SEC. THIS VALUE AGREES WELL WITH THAT OBTAINED FROM EXPT. (0.7 TIMES 10 PRIME NEGATIVE13 CM PRIME3-SEC). UNDER NONSTEADY STATE CONDITIONS, THE CALCD. VALUE OF BETA IS 10 PRIME NEGATIVE2. THE DIFFERENCE BETWEEN THE 2 BETA VALUES IS ASSUMED TO BE ASSOC. WITH SURFACE RECOMBINATION, WHICH IS NOT TAKEN INTO ACCOUNT IN THE EXPRESSION FOR BETA IN THE LATTER CASE. THE INCREASE IN RADIATION INTENSITY AFTER ETCHING (70-80 TIMES) GIVES EVIDENCE FOR A GREAT EFFECT OF THE SURFACE ON BETA. FACILITY: FIZ. INST. IM. LEBEDVA, MOSCOW, USSR.

UNCLASSIFIED



USSR

BOBROVNIK, I. I., GORBUNOV, K. I., KLOCHAN, V. I., MONASTYREV, V. K., POPLAVSKIY, N. N.

"Geoseismic Logging Procedure"

USSR Author's Certificate No 370567 (from Otkrytiya, Izobreteniya, Promyshlennyye obraztsy. Tovarnyye znaki (Discoveries, Inventions, Industrial Models, Trademarks), No 11, 1973, page 144)

Translation: The geoseismic logging procedure by reducing multichannel reflected wave recordings to one generalized track with utilization of mutual correlation functions, track selection by the threshold values of the similarity coefficients and summation with preliminary input of kinematic and static corrections is distinguished by the fact that in order to increase the reliability of wave correlation and determine the relations of the dynamic wave characteristics with physical-lithologic section parameters, two-halfperiod detection of the digital analog of the summogram, sliding integration with the time interval which is a multiple of the oscillation halfperiod and normalization of the recordings with respect to intensity of the excitation center and the amplification coefficients of the recording channel are used successively with subsequent conversion of the energograms by the law of formation of a sequence of partial sums of the theories.

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1/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--RATE OF SUCROSE CRYSTALLIZATION FROM GREEN SIRUP AND PRODUCTS OF  
ITS PURIFICATION BY ELECTRODIALYSIS -U-  
AUTHOR--(03)-KLZYAVKIN, A.P., BOBROVNIK, L.D., ZHURA, K.D.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. VYSSH. UCHEB. ZAVED., PISHCH. TEKHNOL. 1970, (2), 171-4  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY  
TOPIC TAGS--FOOD TECHNOLOGY, SUCROSE, CRYSTALLIZATION, CHEMICAL  
PURIFICATION, ELECTRODIALYSIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3004/0793 STEP NO--UR/0322/70/000/002/0171/0174  
CIRC ACCESSION NO--AF0131547  
UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70  
 CIRC ACCESSION NO--AT0151387  
 ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. THE EFFECTS OF ORG. AND INORG. IMPURITIES OF GREEN MOLASSES WERE STUDIED IN LAB. EXPTS. SPECIMENS OF GREEN MOLASSES WERE SUBJECTED TO ELECTRODIALYSIS WITH IONIC AND CATIONIC MEMBRANES AND ALL THE SEPR. FRACTIONS WERE USED FOR THE EXPTS. THREE GROUPS OF EXPTL. SOLNS. WERE PREPD. THE 1ST GROUP WAS PREPD. FROM GREEN MOLASSES OF CONCNS. 82.0, 85.7, 88.7, AND 92.0PERCENT. THE 2ND GROUP WAS PREPD. FROM DIALYZED MOLASSES FRACTIONS OF CONCNS. 85.6, 88.8, 92.2PERCENT AND DECOLORIZED SOLN. OF CONCNS. 92.8PERCENT. THE 3RD GROUP WAS PREPD. FROM THE CONC. SOLN. FROM THE DIALYZER AND REPRESENTED IMPURITIES RECOVERED FROM MOLASSES. THESE SOLNS. WERE FORTIFIED WITH SUCROSE SIRUP TO OBTAIN CONCNS. OF 85.7, 88.7, AND 92.0PERCENT. THE CRYSTN. OF ALL THE SOLNS. WAS CONDUCTED AT 78DEGREES FOR 2 HR. THE CRYSTALS FORMED WERE RECOVERED FROM THE MOTHER LIQUORS BY FILTERING THROUGH A SCREEN AND BY CENTRIFUGING. THE CRYSTALS RECOVERED WERE WASHED WITH A SATD. SUCROSE MECH SOLN., A HQAC SOLN., AND LTGH SATD. WITH SUCROSE. EXPTL. DATA INDICATED THAT THE CRYSTN. RATE OF THE 2ND GROUP INCREASED WITH INCREASING DEGREE OF PURIFICATION. DECOLORIZATION OF THE DIALYZED SOLN. INCREASED THE CRYSTN. RATE TO A HIGH DEGREE. THE CRYSTN. RATE OF THE 3RD GROUP WAS MUCH LOWER THAN THAT OF GREEN MOLASSES, PROBABLY DUE TO THE EFFECT OF ORG. SUBSTANCES.  
 FACILITY: KIEV. TECHNOL. INST. PISHCH. PROM., KIEV, USSR.

11/11/70

1/2 035 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--DIURNAL RHYTHM OF MOUSE RADIOSENSITIVITY -U-

AUTHOR--(02)-KUZNETSOVA, S.S., BOBROVNIKOV, I.D.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(1), 152

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GAMMA RADIATION, RADIATION BIOLOGIC EFFECT, MOUSE, RADIATION  
DOSAGE, RADIATION SENSITIVITY, COBALT ISOTOPE, DIURNAL VARIATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1998/0455

STEP NO--UR/0205/70/010/001/0152/0152

CIRC ACCESSION NO--AP0121129

UNCLASSIFIED

2/2 035 UNCLASSIFIED PROCESSING DATE--30OCT70  
CIRC ACCESSION NO--AP0121129  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESEXED MALE MICE OF 21-3 G WT.,  
WERE KEPT UNDER ARTIFICIAL ILLUMINATION DURING THE DAY, AND IN  
ARTIFICIAL DUSK (1-3 LUX) DURING THE NIGHT. DIFFERENT GROUPS OF ANIMALS  
WERE IRRADIATED DURING 3 DAYS AT 3 HR INTERVALS IN A UNIFORM GAMMA FIELD  
(PRIME60 CO) WITH 580 R. THE AV. DAILY DEATH RATE WAS 47PERCENT. WITH  
IRRADN. TIMES AT NOON AND MIDNIGHT, THE DEATH RATE WAS HIGHER THAN WITH  
IRRADN. IN THE MORNING, AND AFTERNOON. THIS PERIODIC VARIATION OF  
MOUSE RADIOSENSITIVITY WAS A SINUSOIDAL FUNCTION, WITH A PERIOD OF 12  
HR. THE DEATH AMPLITUDE VARIABILITY WAS 38PERCENT. MAX. MOUSE  
RADIOSENSITIVITY WAS AT 11 A.M. AND 11 P.M. FACILITY: INST.  
BIOFIZ., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 669.71.022

BOBROVNIKOV, N. A.

"Simulation of the Ventilation and Dust Removal System of a Side Car Dumper"

Tr. Vses. n.-i. i proyekt. in-ta alyumin., magn. i elektrod. prom-sti (Works of the All-Union Scientific Research and Planning and Design Institute of the Aluminum, Magnesium and Electrode Industry), 1970, No 73, pp 165-171 (from RZh-Metallurgiya, No 7, Jul 71, Abstract No 7G192)

Translation: The correctness of the selected design of an aspirated cover has been confirmed, and the most dangerous dust dislodging points have been discovered. The width of the intake slots in the exhaust collector for allowable magnitudes of nonuniformity of air intake, the required air velocities in the leaks of the cover, and the total area of the leaks which must be maintained in an actual device when unloading nephelines and bauxites were determined. The results of studying the model were considered when developing the working drawings of the dust removal unit for the side car dumper of the Achinsk Alumina Plant. The article contains 2 illustrations and 1 table.

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- 45 -

USSR

UDC 621.378.3

BOBROVNIKOV, Yu. A., VERNIGOR, Ye. M., ZVEREV, G. M., LUK'YANTSEV, Ye. A.,  
MARTYNOV, A. D., and KHROLOVA, O. P.

"Effective Conversion of the Second Harmonic of a Ruby Laser into Induced  
Radiation in the 400-470 Millimicron Range in Stilbenyloxazole Solutions"

Minsk, Zhurnal Prikladnoy Spektroskopii, Vol 13, No 2, Aug 70, pp 216-219

Abstract: Results are presented for an experiment conducted to study the laser-  
induced radiation in alcohol solutions of stilbenyloxazoles. In the experiment  
a 2.5 Mw ruby-laser beam was focused on the vessel containing the solution. The  
induced radiation was recorded by means of the ISP-51 spectrograph. The wave  
length of the induced radiation ranged from 400 to 470 millimicrons. The spectrum  
width for alcohol is 2.5-3 times that produced in benzene. For all solutions  
studied the radiation conversion factor is about 20%.

1/1

USSR

UDC 534.2

BOBROVNITSKIY, YU. I., VASIL'YEV, M. V., GENKIN, M. D.

"Propagation of Waves Bending Over a Plate With a Periodic, Concentrated Load"

V sb. Dinamika i akustika mashin (Machine Dynamics and Acoustics -- Collection of Works), Moscow, "Nauka", 1971, pp 24-27 (from RZh-Fizika, No 3, Mar 72, Abstract No 3Zh476)

Translation: The dispersion equation is derived for flexural normal waves propagating over an unbounded plate to which additional loads with dynamic rigidity  $Z_n$  are fastened at periodically placed points. A function which is represented by an infinite series and which could not be identified with any of the known special functions enters into the dispersion equation. Dispersion surfaces are constructed. The case of mass loads is analyzed. 10 ref. Authors abstract.

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USSR

UDC 534.322.3+534.83

BOBROVITSKIY, YU. I., GENKIN, M. D., MOROZOV, K. D.

"A New Method of Acoustical Diagnostics"

V sb. Dinamika i akustika mashin (Machine Dynamics and Acoustics -- Collection of Works), Moscow, "Nauka", 1971, pp 98-108 (from RZh-Fizika, No 3, Mar 72, Abstract No 3Zh504)

Translation: A method for acoustical diagnostics of machines that uses a system of orthogonal functions to determine the diagnostics parameters is described. The theoretical basis of the proposed method is given and the basis for design of the diagnostic separation filter is explained. The case of the non-linear dependence of noise on the diagnostics parameter is discussed. The calculation of the parameters of the separation filter is generalized for simultaneous measurement of several diagnostic parameters. A model of the diagnostic device is described and Laguerre orthogonal functions are used. The results of a diagnostic experiment are presented which show the possibilities of the effective application of the proposed method in the diagnostics of mechanisms and machines. 36 ref. Authors abstract.

1/1

USSR

UDC 624.07:534.1

BOBROVNITSKIY, Yu. I., GENKIN, M. D., MASLOV, V. P.

"Oscillations of an Infinite Lattice of Strings"

V sb. Vibroakust. aktivnost' mekhanizmov s zubchatymi peredachami (Vibro-acoustic Activity of Mechanisms with Teared Transmissions), Moscow, "Nauka", 1971, pp 197-204 (from RZh-Mekhanika, No 10, Oct 71, Abstract No 10V174)

Translation: A study is made of the propagation of normal waves in an infinite string lattice, and its Green's function. Alternating bands of transmission and nontransmission take place when the lattice waves propagate in different directions. It is shown that the boundaries between these bands are the natural frequencies of a single repeated cell of the lattice. Forced oscillations of the lattice under the effect of an arbitrary external load are computed by means of the Green's function. The Greens function is found in the form of a double integral which is not expressed in terms of the unknown functions. The asymptotic behavior of this function is investigated. It is found in particular that the wave amplitude always falls off in inverse proportion to the square root of

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USSR

BOBROVNITSKIY, Yu. I. et al., Vibroakust. aktivnost' mekhanizmov s subchatymi peredachami, Moscow, "Nauka", 1971, pp 197-204

the distance from the source. An equation is also found for the save front of a point source. In addition, the input compliance of the lattice is computed. This quantity is expressed in terms of entirely elliptical integrals of the first kind. Authors' abstract.

2/2

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1/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--SODIUM NITRITE, SODIUM NITRATE, SODIUM HYDROXIDE WATER SYSTEMS -U-

AUTHOR--(02)-PLEKHOTKIN, V.F., BOBROVSKAYA, L.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(6), 1643-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AQUEOUS SOLUTION, SOLUBILITY, SODIUM HYDROXIDE, NITRITE,  
SODIUM NITRATE, HEAT OF HYDRATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3006/1388

STEP NO--UR/0078/70/015/006/1643/1647

CIRC ACCESSION NO--AP0135062

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0135062

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOLY. AND PHYS. PROPERTIES OF  
SOLNS. OF  $\text{NaX-NaOH-H}$  SUB2 O SYSTEMS (WHERE X EQUALS NO SUB2 OR NO SUB3)  
ARE GIVEN. THE SYSTEMS ARE OF SIMPLE EUTONIC TYPE. DELTAG OF  $\text{NaOH,H}$   
SUB2 O FORMATION IS MINUS 0.923 KCAL-MOLE.

UNCLASSIFIED

1/2 006 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--SOLVOLYSIS OF GERMANIUM TETRACHLORIDE IN NONAQUEOUS MEDIA -U-  
AUTHOR-(03)-RELCUSOVA, YE.M., SEYFULLINA, I.I., BOBROVSKAYA, M.M.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 996-9  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--GERMANIUM COMPOUND, CHLORIDE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1999/1075 STEP NO--UR/0078/70/015/004/0996/0999  
CIRC ACCESSION NO--AP0123068  
UNCLASSIFIED

2/2 006

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123068

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE EFFECTS OF THE SOLVENT ON  
COMPLEX FORMATION OF GECL SUB4 WITH N CONTG. SUBSTANCES WERE STUDIED  
CONDUCTOMETRICALLY IN NONAQ. MEDIA TO CLARIFY THE SOLVOLYSIS OF GECL  
SUB4 IN ME SUB2 CO OR ACOH. THE DEGREE OF SOLVOLYSIS IS GREATER IN ACOH  
THAN IN ME SUB2 CO. SOLVOLYTIC CONSTS. IN ACOH ARE 8.7 TIMES 10 PRIME  
NEGATIVE6 AND 2.74 TIMES 10 PRIME NEGATIVE11 (K SUB1 AND K SUB2, RESP.).  
FACILITY: ODESS. GOS. UNIV. IM. MECHNIKOVA, ODESS, USSR.

UNCLASSIFIED

USSR

UDC 621.352.3

BOBROVSKIY, G.A., GORYUNOV, N.N., SHELEV, S.K.

"Investigation Of The Effect Of Gamma Irradiation On The Parameters Of Transistors Used In Micromodule Magneto-Semiconductor Components"

Dokl. nauchno-tekhn. konferentsii po ispol'z. ionizir. izlucheniya v nar. zh-ve  
(Reports Of The Scientific-Technical Conference On The Use Of Ionized Radiation In The National Economy), Issue 3, Tula, Prikskiy Book Press, 1970, pp 294-305  
(from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 48228)

Translation: Averaged quantitative indices are presented for the dependences of the parameters of transistors on an integral dose of Gamma radiation, and a connection is also established between the efficiency of a micromodule magneto-semiconductor component (MSC), after irradiation of its transistor part, and an integral dose of Gamma radiation. It is noted that the current amplification factor  $B$  and the back current of the emitter junction  $I_{EO}$  undergo the greatest change. Forty Type TM-5 alloy-type germanium transistors which are used in micromodules of MSC were investigated with respect to a complex of parameters under control. The correspondence of the complex of their parameters to the norms of technical conditions was taken into account by the criterion of the reliable functioning of transistors which are tested in the structure of the MSC. The irradiation dose amounted to  $\sim 5.0 \cdot 10^8$  R. G.V.

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AM0037531

NUCLEAR SCI. ABST. 1/70 UR 0000

3332 (MATT-Trans-92) NEW RESULTS IN THE STUDY OF  
ANOMALOUS PLASMA RESISTANCE IN THE TM-3 TOKAMAK.

Bobrovskii, G. A.; Kislyakov, A. I.; Petrov, M. P.; Razumova,

K. A.; Shcheglov, D. A. (Gosudarstvennyi Komitet po ispol'zo-  
vaniyu Atomnoi Energii SSSR, Moscow, Institut Atomnoi Energii).

Translated for Princeton Univ., N. J., from report IAE-1905.

16p. Dep. CFSTI.

An investigation was made of discharge conditions in the TM-3 device with a relatively high temperature and low concentration. Under these conditions protons are detected the temperature of which cannot be explained by Coulomb transfers from electrons to ions in a number of cases. The dependence of the anomalous resistance on certain parameters is studied. (auth)

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USSR

UDC 621.383.8:535.317.25

TSYGANENKO, V. V., LACHASHVILI, R. A., BOBROVSKIY, I. A.

"Estimation of the Paraxial Resolving Capacity of Cathode Lenses"

Optiko Mekhanicheskaya Promyshlennost', No 12, 1972, pp 12-16.

Abstract: The paraxial resolving capacity of a cathode lens, consisting of a system of electrostatic and magnetic fields, is determined by the distribution of energy of electrons emitted from the cathode, their angular distribution, chromatic aberrations and spherical aberrations of the lens itself. This article presents a method for estimation of paraxial resolving capacities of cathode lenses by means of the frequency-contrast characteristic (FCC). Results are presented from calculation of the FCC by computer in various planes of an image as a function of the spherical aberration and the distribution of electrons by energies (angular distribution assumed to be Lambert). Dependences of the maximum resolving capacity on position of the image plane and assigned distribution by initial energies are presented. The results produced are used to estimate the influence of fluctuations in the magnetic field on the resolving capacity of biplanar electronic-optical convertors. It is found that fluctuations of the magnetic field are among the main factors reducing the resolving capacity of the convertors.

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1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--ELECTRODEPOSITION OF TIN FROM CHLORIDE FLUORIDE AND SULFATE  
FLUORIDE ELECTROLYTES -U-  
AUTHOR-(02)-BOBROVSKIY, L.K., KISELEVA, V.L.  
COUNTRY OF INFO--USSR **B**  
SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(1), 88-92  
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ELECTRODEPOSITION, TIN CHLORIDE, FLUORIDE, SULFATE,  
ELECTROLYTE, TIN PLATING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1997/1389

STEP NO--UR/0153/70/013/001/0088/0092

CIRC ACCESSION NO--ATD120182

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0120182

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CATHODIC POLARIZATION IS MARKEDLY INCREASED DURING THE ELECTRODEPOSITION OF SN FROM BATHS CONTG. EITHER SNCL SUB2.2H SUB2 O 50 AND NAF 60 G-L., OR SNSO SUB4 45 AND NAF 50 G-L., BY THE PRESENCE OF 2 G-L. OF THE FOLLOWING ADDITIVES: OS-20 (POLYETHYLENE GLYCOL ETHERS OF HIGHER FATTY ALCS.), OP-7 (POLYETHYLENE GLYCOL ETHERS OF ALKYLPHENOLS), OR OP-10 (POLYETHYLENE GLYCOL ETHERS OF DIALKYLPHENOLS), AND LESS SO IN THE PRESENCE OF 2 G-L. OF STEAROX-6 (POLYETHYLENE GLYCOL ESTERS OF STEARIC ACID). WITH THE 1ST 3, DENSE, FINELY CRYST., SILVERY WHITE DEPOSITS ARE FORMED, WHILE WITH THE LAST THE SURFACE IS COMPACT, DARK, AND NODULAR. AT LOW ADDITIVE CONCNS. (0.1 G-L.), DENDRITES ARE FORMED. ADDN. OF SMALLER THAN 30 G-L. HCL OR H SUB2 SO SUB4 TO THE ELECTROLYTE PERMITS INCREASING THE C.D. TO 2 A-DM PRIME2 AT 20DEGREES, AND TO 3 A-DM PRIME2 AT 35DEGREES. NACL (20-40 G-L.) CAN BE ADDED TO THE CHLORIDE ELECTROLYTE. CURRENT YIELD IS 90-100PERCENT, AND DEPOSITS 30 MU THICK CAN BE OBTAINED. FACILITY: IVANOV. KHIM. TEKHNOL. INST., IVANOVO, USSR.

UNCLASSIFIED

USSR

UDC 615.332 (Rifampicinum).015.44.576.851.252+576.851.42

BOBROVSKIY, M., DZERZHANOVSKAYA, D., YAKUBICH, P., and BOROVSKIY, YE., Chair  
of Microbiology, University Medical School, Bialystok, Poland

"Rifampicin Activity Against Clinical Strains of Staphylococci and Gram-Negative Bacilli"

Moscow, Antibiotiki, No 12, 1971, pp 1072-1077

Abstract: Study of 282 bacterial strains isolated from pus, sputum, urine, and feces showed that all 120 Staphylococcus aureus strains were highly sensitive to rifampicin in concentrations ranging from 0.005 to 0.05  $\mu$ g/ml. Among the gram-negative bacteria, E. coli and Proteus were the most sensitive to the antibiotic. Salmonella and Shigella were somewhat less sensitive, while Klebsiella and Ps. aeruginosa proved to be resistant. The minimum inhibitory concentration of rifampicin varied with the amount of bacteria tested and the pH of the medium. Resistant variants growing in the presence of high concentrations of the antibiotic appeared at the rate of 1 per  $10^7$  cells. The sensitivity of many of the gram-negative strains was intensified by increasing the acidity of the medium. It is suggested that the therapy of urological infections can be made more effective by acidifying the patient's urine.

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Acc. Nr: **AP0034393**

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 2, pp 102-107

! PENICILLINASE-PRODUCING GRAMNEGATIVE BACILLI AS ETIOLOGICAL  
FACTORS OF THE URINARY TRACT INFECTIONS

Bobrovskiy, M.; Dzerzhanovskaya, D.; Filipchuk, Ya.

Microbiological Chair of Medical Academy of Belostock, Poland

Penicillinase activity of 73 strains of E. coli, Klebsiella and Proteus isolated from urine was determined. No correlation between the enzymatic activity of a particular strain and its ability to cause severe infections of the urinary tract was found. It has been demonstrated that  $\beta$ -lactamase formation is not the only mechanism of the insensitivity of gramnegative bacteria to penicillins and the intrinsic resistance, as well as penicillinase production should also be regarded. It has also been observed that some considerable differences occur in substrate specificity and affinity of penicillinases from different bacterial species.

D. n.

REEL/FRAME  
**19711052**

BOBROVSKIY, N. A.

SO:JPAS 53402

18 JUN 71

UDC: 614.23:616.21:658.36

OPTIMIZING SCHEDULING OF WORK OF OTORHINOLARYNGOLOGISTS IN THE OUTPATIENT SERVICE OF OBLAST HOSPITALS

(Article by A.B. Morozov, candidate of medical sciences, Moscow Scientific Research Institute for Ear, Nose and Throat (director: Professor N.A. Bobrovskiy), RSFSR Ministry of Health; Moscow, Sovetskoye Zdravoohraneniye, 1971, No. 5, 1971, submitted 10 December 1970, pp. 39-44)

(Article by A.B. Morozov, candidate of medical sciences, Moscow Scientific Research Institute for Ear, Nose and Throat (director: Professor N.A. Bobrovskiy), RSFSR Ministry of Health; Moscow, Sovetskoye Zdravoohraneniye, 1971, No. 5, 1971, submitted 10 December 1970, pp. 39-44)

In view of the fact that organization of work and setting norms for working hours of ENT (ear, nose, throat) specialists in oblast consultation polyclinics, in the outpatient service, have not been covered sufficiently in the domestic literature, we set the goal of determining the actual time spent by ENT physicians, of investigating the quality of the therapeutic and consultative aid rendered by them to patients, and of developing optimum work volume for ENT consultants as related to service to outpatients in the oblast hospital polyclinic. The chronometry method developed by the All-Union Scientific Research Institute of Social Hygiene and Public Health Organization (Ismi N.A. Semashko), for outpatient work was used, after making some additions related to the specific activity of ENT consultants. Specialists specially trained by us gathered the data. The study was pursued in different months, for 12 work weeks, in ten cities which were the administrative centers of oblasts and autonomous republics, and which were situated in different climate and economic zones of the nation. Nurses, who were taught how to keep time filled out special cards on which, in addition to identification data, were recorded the time spent on each patient and all other forms of activity of ENT specialists during the day. At the same time, an evaluation expert opinion was made of the justification for visiting this specialist and of the thoroughness and quality of therapeutic and diagnostic services to the patient. In all, over 3,000 cards per patient were filled out, and 100 time cards for the ENT doctor in the course of 1 work day. The data gathered were coded and processed by the method of variational statistics.

Classification of the obtained data revealed that the ENT specialists of oblast polyclinics render not only consultative but also therapeutic and diagnostic aid to the inhabitants of a number of rural regions. In addition,

USSR

UDC: 621.386.623.5.001.5

BOBROVSKIY, Yu. D., OVCHINNIKOV, K. D.

"Concerning Nonlinear Analysis of Reflex Klystrons With High Electronic Conductivity"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 4, Apr 72, pp 818-825

Abstract: The method of averaging is used for a second-approximation analysis of the reflex klystron. Expressions are derived for calculating the basic characteristics of reflex klystrons for working conditions and parameters where higher harmonics of current must be taken into account. Examples of calculation are presented and the results are discussed. It was found that nonlinear effects due to the presence of higher harmonics may have an appreciable effect on the amplitude and frequency of oscillations (hysteresis phenomena, change in the sign of the slope of electron tuning). The degree of this effect is a complex function of several parameters. Anomalies are basically the results of the influence of odd harmonics. Therefore even harmonics could be omitted to simplify a more refined model of the reflex klystron with regard to multiple electron transits and the influence of forces of repulsion. The authors thank M. B. Golant for interest and constructive criticism.

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USSR

UDC 621.373.521.1:621.382.233

BOBROVSKIY, YU. L., BOL'SHAKOVA, N. P., OBCHINNIKOV, K. D., TSUKER, M. S.

"Superhigh Frequency Tunnel Diode Generator with a Wide Mechanical Tuning Band"

Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-t svyazi. Vyp. 2 (Materials of the Scientific and Technical Conference. Leningrad Electrotechnical Communications Institute. Vyp. 2), Leningrad, 1970, pp 204-207 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D261)

Translation: The results of an experimental investigation of a superhigh frequency tunnel diode generator with a wide range of mechanical tuning are presented. The applicability of the quasilinear approximation for calculating the output power is demonstrated. There are two illustrations and a two-entry bibliography.

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USSR

UDC 621.373.521.1:621.382.233

**B**  
BOBROVSKIY, YU. L., GOGOBERIDZE, G. B., KOVALEVA, D. I.

"Synchronizing a Superhigh Frequency Tunnel Diode Generator"

Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-t svyazi.  
Vyp. 2 (Materials of the Scientific and Technical Conference. Leningrad  
Electrotechnical Communications Institute. Vyp. 2), Leningrad, 1970, pp  
204-207 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D262)

Translation: Two versions of the circuit for synchronizing a superhigh frequency tunnel diode generator are investigated. Practical recommendations with respect to utilization of each of the schemes are confirmed by the results of an experimental study.

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1/2 019 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--CORE MIXTURES BASED ON PHENOL FORMALDEHYDE RESINS FOR PRODUCING  
CORES IN HOT BOXES --U-

AUTHOR--(02)--BOBRYAKOV, G.I., GRITSKEVICH, L.F.

COUNTRY OF INFO--USSR

SOURCE--TEKHNIKA PROIZVOD. 1970, 151, 6-8

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CLAY, SAND, PHENOL FORMALDEHYDE RESIN, UREA, TENSILE STRENGTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605012/B08 STEP NO--UR/0128/70/000/005/0006/0008

CIRC ACCESSION NO--AP0140249

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140249

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE FOLLOWING CORE MIXTS. WERE DEVELOPED BY USING THE LUBERETSK SAND CONTG. 0.45 WT. PERCENT CLAY MATERIAL. IT IS RECOMMENDED TO USE SAND CONTG. LESS THAN OR EQUAL TO 0.5PERCENT CLAY MATERIAL, BECAUSE THE CLAY CONSIDERABLY DECREASED THE DRY STRENGTH OF THE CORE MIXTS. THE ADDN. OF UREA (5 AND 10PERCENT OF THE WT. OF PHENOL ALCS.) DELAYED CONSIDERABLY THE DECOMP. OF PHENOL ALCS. WHEN 0.8PERCENT UREA WAS ADDED TO THE CORE MIXT. THE HARDENING RATE WAS INCREASED, WHILE THE TENSILE STRENGTH IMPROVED. COMPNS. OF CORE MIXTS. ARE GIVEN.

UNCLASSIFIED

USSR

UDC: 681.3.061.62

BOBRYSEV, D. N., Candidate of Economic Sciences, RAYKOV, L. G.,  
Candidate of Technical Sciences, ZHIDAKOV, V. P., Engineer

"Experience in Development of a Computer Information System for  
a Scientific Institution"

Moscow, Mekhanizatsiya i Avtomatizatsiya Proizvodstva, No 3,  
1972, pp 36-40

Abstract: The paper describes the technical basis of a com-  
puter information system; in particular, the devices for input  
and output of information, and also the software, which offers  
a set of all kinds of possible programs to facilitate communi-  
cations between users and the system.

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- 63 -

USSR

UDC 621.372.413

KRAVCHENKO, V. F., KARETNIKOV, S. N., and BOBRYSHV, V. D.

"Calculating Limit Resonators"

Radiotekhnika. Resp. mezhved. temat. nauch.-tekhn. sb. (Radio Engineering. Republic Interagency Thematic Scientific-Technical Collection of Articles), 1972, vyp.21, pp 107-113 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 B122)

Translation: A relationship is obtained which is not only suitable for calculating regularly-nonregular limit resonators, but which also reflects some regularities associated with variation in the geometry of a resonator. It is shown that the Q-factor of an  $H_{011}$  wave biconical resonator is more than two times greater than the Q-factor of a regular cylindrical resonator. It is noted that it is possible to achieve values of the loaded Q-factor which exceed  $5 \cdot 10^4$  for a basic type of oscillation. Original article: four illustrations, two tables, and 13 bibliographic entries.

1/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--APPROXIMATION METHODS FOR CALCULATING INTEGRALS CONTAINING A TWO  
CENTER DISTRIBUTION SMALLER THAN PHI SUBA PHI SUBB. II. USE OF THE  
AUTHOR--(03)--KLYAGINA, A.P., DYATKINA, M.YE., BOBRY SHEVA, N.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. STRUKT. KHIM. 1970, 11(1), 95-8 (RUSS)

DATE PUBLISHED-----70

SUBJECT AREAS--MATHEMATICAL SCIENCES, PHYSICS

TOPIC TAGS--APPROXIMATION METHOD, ATOMIC PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3002/0103

STEP NO--UR/0192/70/011/001/0095/0098

CIRC ACCESSION NO--AP0127729

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0127729

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE 4 CENTER INTEGRALS IN CALCNS. FOR COMPS. OF TRANSITION ELEMENTS WITH DISTANCES BETWEEN THE CENTERS OF LARGER THAN OR EQUAL TO 3 AT. UNITS CAN BE IGNORED. OF 2 CENTER INTEGRALS THOSE CONTG. 2 CENTER DISTRIBUTION WITH A DISTANCE BETWEEN THEM LARGER THAN 5 AT. UNITS CAN BE ALSO IGNORED. THE VALUE OF 3 CENTERED INTEGRALS INCREASES WITH THE DECREASE IN THE EXPONENT OF THE AT. FUNCTION. THE VALUES OF THREE CENTER INTEGRALS ARE LARGE ENOUGH (0.100-0.050 AT. UNITS) TO BE ACCOUNTED FOR IN CALCNS. BY THE RUTAN METHOD. FACILITY: INST. OBSHCH. NEORG. KHIM. IN. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED



1/2 014 <sup>B</sup> UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--SUSCEPTIBILITY OF NiO-MGO SOLID SOLUTIONS HARDENED AT VARIOUS  
TEMPERATURES -U-  
AUTHOR--ARIYA, S.M., BORISOVA, N.V., BOBRY SHEVA, N.P.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 266-7  
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MAGNESIUM OXIDE, NICKEL OXIDE, MAGNETIC SUSCEPTIBILITY,  
THERMAL EFFECT, X RAY DIFFRACTION ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1938/0682

STEP NO--UR70076/70/044/001/0266/0267

CIPC ACCESSION NO--AP0105658

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105658

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOLID SOLNS. OF NIO-MGO WITH 1-10 MOL. PERCENT NIO WERE HARDENED AT 900, 1100, AND 1300DEGREESC, ANALYZED CHEM. AND BY X RAY DIFFRACTION. THE SUSCEPTIBILITY WAS MEASURED BY THE FARADAY METHOD AT 78-460DEGREESK WITHIN 9100-13,500 OE. THE SHAPES OF THE CHINI PRIMEPARA ISOTHERMS FOR ALL HARDENING TEMPS. ARE PRACTICALLY IDENTICAL. THE ISOTHERMS DECREASE SLOWLY AT 1-5 MOLE PERCENT NIO, AND RAPIDLY STARTING AT 5 MOLE PERCENT NIO.

UNCLASSIFIED

USSR

UDC: None

VOROB'YEV, A. A., BOBUDAYEV, A. Ya., VOROB'YEV, S. A., and KAPLIN, V. V.

"Scattering of Electrons by Monocrystals"

Leningrad, Fizika Tverdogo Tela, vol 14, No 7, 1972, pp 2157-2159

Abstract: This paper is the consequence of an earlier one (H.C.H. Nip et al, Phys. Lett., 28A, 1968, p 324) in which the possibility of the existence of stable trajectories for fast electrons scattered by a monocrystal was discussed. Such an effect should result in the anomalous passage of electrons through the crystal if the axis of the incident beam coincides with one of the crystallographic directions of the target. This paper describes measurements made to detect such an anomalous electron flow. The electron beam was obtained from a radioactive source,  $(\text{Sr}+\text{Y})^{90}$ , with the angular scattering of the electron beam incident on the target reduced to  $0.5^\circ$  through strong collimation. NaCl monocrystals were used as the target, and the recording device was the USD-1 scintillation counter. A curve is plotted for the electron scattering by a  $190\text{-}\mu$ -thick NaCl crystal as a function of the rotational angle of the crystal axis with respect to the direction of the incident beam. The authors, members of the S. M. Kirov Polytechnical Institute at

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USSR

VOROB'YEV, A. A., et al, Fizika tverdogo tela, vol 14, No 7, 1972,  
pp 2157-2159

Tomsk, express their gratitude to I. A. Tsekhanovskiy for his com-  
ments on the experimental results.

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1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--DECALCIFICATION OF POLYOLEFINS -U-

AUTHOR--(05)--IVANYUKOV, D.V., KRYMOV, P.V., KUDRYAVTSEV, V.B., LYAKUMOVICH,  
A.G., BOBOK, N.S.  
COUNTRY ~~OF INFO~~--USSR **B**

SOURCE--USSR 263,141  
REFERENCE--UTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,  
DATE PUBLISHED--04FEB70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DECALCIFICATION, ALKENE, CATALYTIC POLYMERIZATION, CHEMICAL  
PATENT, SURFACE ACTIVE AGENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PRUXY REEL/FRAME--3002/1474

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128873

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0128873

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. POLYOLEFINS PREPD. ON ZIEGLER  
NATTA CATALYSTS WERE DECALCIFIED BY BEING WASHED WITH HOT SOFT WATER  
CONTG. DISSOLVED SURFACTANTS, SUCH AS K OR NA SALTS OF STIROMAL. A  
SOLN. OF THESE SALTS WAS PASSED THROUGH AN A. C. OR D. C.  
ELECTROMAGNETIC FIELD BEFORE IT WAS USED IN THE WASHING PROCESS.

UNCLASSIFIED

USSR

UDC 629.78.015.017.2

BOBTSOV, V. A., BRAUDE, A. Z., KUZMAK, G. Ye.

"Approximate Synthesis of Optimal Control in Variational and Games Problems of Flight Mechanics with Free End of the Trajectory"

Uch. zap. Tsentr. Aerogidrodinam. In-ta [Scientific Writings of Central Institute of Aerodynamics and Hydrodynamics], Vol 3, No 3, 1971, pp 61-71, (Translated from Referativnyy Zhurnal, Raketostroyeniye, No 9, 1972, Abstract No 9.41.115, from the Resume).

Translation: The task of synthesis of optimal control is studied in variational and games problems for cases when there are no conditions at the end of the trajectory except for the conditions defining the end of the trajectory. An approximate method is suggested for solution of this problem, representing a development of the method of local optimization, which is convenient for computer realization. Using this method, it is often possible to find simple approximate analytic solutions of the synthesis problem. Three examples are studied as illustrations: the problem of flight to maximum range, the problem of climbing to an assigned altitude in the minimum time and the problem of the game of two persons controlling the planar motion

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USSR

BOBTSOV, V. A., BRAUDE, A. Z., KUZMAK, G. Ye., Uch. zap. Tsentr. Aerogidrodinam. In-ta, Vol 3, No 3, 1971, pp 61-71

of two material points. Results are produced in the first two examples which have simple physical sense. 3 figures; 7 bibliographic references.

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USSR

UDC 621.384.6

BASIN, I.A., BOBYKIN, B.V., DAVYDOVSKIY, V.YA., KEL'MAN, V.M., FINGGENOV, P.A.,  
YAKUSHEV, YE. M. [In-t yadern. fiz. AN KazSSR--Institute Of Nuclear Physics, AS,  
Kazakh SSR]

"Magnetic Prism"

USSR Author's Certificate No 255429, filed 2 Mar 68, published 31 Mar 70 (from  
RZh--Elektronika i yeye primeneniye, No 11, November 1970, Abstract No 11A268P)

Translation: The magnetic prism which is patented, consisting of an electromagnetic with extended pole shoes of parallelepiped form, differs in the fact that with the object of reducing the inhomogeneity of a two-dimensional magnetic field and suppressing the dispersal of the fields, the prism contains another such electromagnet located above the first, while the winding of both electromagnets is connected in opposition, and a gasket [prokladka] is mounted between the poles of the magnet and the yoke.

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Welding

USSR

UDC 621.791.053.002.612:658.386

BOTINOV, S. N., KAZENNOV, YU. I., AGAPOVA, N. P., ~~PALICHNIK, N. YU.~~ (Candidates of Technical Sciences), PROKHOROV, V. I., REVIZNIKOV, L. I., BOBYLEV, A. P., KRASINA, T. A., KRYLOV, YE. A., BALASHOV, V. D. ZINKOVSKIY, V. I., SYCHEV, R. S. (Engineers)

"Effect of Irradiation on the Properties of Welds of High-Alloy Steels and Alloys"

Moscow, Svarochnoye Proizvodstvo, No 3, Mar 70, pp 4-6

Abstract: The effect of neutron irradiation on the short-term mechanical properties of basic metals and welds from 00Kh16N15M3B, 0Kh16N15M3B, and 0Kh20N40B austenitic steels and 1Kh132BFR ferrite-martensite steel was investigated. The mechanical properties were determined on samples cut in the longitudinal direction from argon-arc welds using an infusible electrode. The samples were irradiated in the active zone of a reactor at about 100°C. The theoretical neutron flux density was  $10^{15}$  neutron/cm<sup>2</sup>·sec. Some samples received a dose of  $2.8 \times 10^{21}$  neutron/cm<sup>2</sup>, while others received a dose of  $4.3 \times 10^{21}$  neutron/cm<sup>2</sup>. The mechanical properties were determined on UM-5 tensile testing machines at air temperatures of 20, 350, and 650°C.

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BOTINOV, S. N. et al, Svarochnoye Proizvodstvo, No 3, Mar 70, pp 4-6

Tests conducted at 20°C showed that strength properties of all samples increased after irradiation; plasticity decreased. The tensile and yield strengths of weld metals with an austenitic structure increased to a lesser degree than those of the base metals. The mechanical properties of all samples at 350° did not differ from those of the base metals. A decrease in tensile and yield strength with a simultaneous decrease in plasticity was observed in samples with an austenitic structure in tests conducted at 650°C. These decreases were especially noticeable in irradiated samples made from 40% Ni steel. The possible cause of the sharp decline in the intergrain strength and plasticity observed at 650°C in the irradiated metal with high nickel content is suggested. Orig. art. has: 2 figures, 4 tables, and 5 references.

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172 031 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--ABSORPTION OF ULTRASOUND IN A PRIMEIII B PRIMEV SEMICONDUCTOR  
COMPOUNDS -U-  
AUTHOR-(02)-BOBYLEV, B.A., KRAVCHENKO, A.F.  
COUNTRY OF INFO--USSR  
SOURCE--AKUST. SH. 1970, 16(1), 15-19  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--SEMICONDUCTOR MATERIAL, ULTRASONIC ABSORPTION, GALLIUM  
ARSENIDE, GALLIUM ANTIMONIDE, INDIUM ARSENIDE, INDIUM ANTIMONIDE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--2000/2256 STEP NO--UR/0046/70/016/001/0015/0019  
CIRC ACCESSION NO--AP0125834  
UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0125834

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ULTRASONIC ABSORPTION IN SEMICONDUCTORS (GAAS, INAS, GASB, INSB) IS CARRIED OUT AT DIFFERENT TEMPS. AND AT 90 MHZ BY AN PULSE METHOD WITH AN ACCURACY OF 1PERCENT. AT 20-100DEGREESK A RAPID INCREASE OF ABSORPTION WITH TEMP. IS CHARACTERISTIC OF LONGITUDINAL AND TRANSVERSE WAVES PROPAGATED ALONG MEAN VALUE OF 110 WITH POLARIZATION MEAN VALUE OF 1 BAR 1 0. AT 20DEGREESK, THE INCREASE OF ABSORPTION IS SIMILAR TO THAT OF SP. HEAT. WITH DIFFERENT TYPES OF POLARIZED WAVES, THE DEPENDENCE OF ABSORPTION OF TEMP. IS THE SAME FOR ALL THESE MATERIALS. AT LOW TEMP. THE ABSORPTION DECREASES WITH A DECREASE OF FREE CHARGE CARRIERS CONC. FOR PIEZOACTIVE WAVES. IN MANY CASES THERE IS A SHARP MAX. IN THE ABSORPTION AT 60DEGREESK. AT 11DEGREESK IN GAAS, THERE IS A PEAK IN THE ABSORPTION CURVE FOR FREQUENCIES OF 31-165 MHZ. THE GENERAL CHARACTERISTIC OF ABSORPTION VS. TEMP. SHOWS THAT THE PHONON ABSORPTION MECHANISM IS IMPROTANT. THE EXPTL. RESULTS ARE COMPARED WITH THE PHONON ABSORPTION THEORY OF WOODRUFF AND EHRENRIKH. ASSUMING A TEMP. DEPENDENCE OF THE GREENEISEN CONST., A CURVE FOR SUCH A VARIATION IS GIVEN.  
FACILITY: INST. FIZ. POLUPROV., NOVOSIBIRSK, USSR.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--THE ROLE OF STREPTOCOCCAL CARRIER STATE IN THE DEVELOPMENT OF  
RHEUMATISM AND ITS RELAPSES AMONG THE INHABITANTS OF RURAL LOCALITIES  
AUTHOR--BOBYLEV, V., KURMAYEVA, N., YAKOVLEV, A. B  
COUNTRY OF INFO--USSR  
SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 2, PP 55-58  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--STREPTOCOCCUS, RHEUMATIC DISEASE, RESPIRATORY SYSTEM DISEASE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1985/1781 STEP NU--UR/0504/70/042/002/0055/0053  
CIRC ACCESSION NO--AP0101828  
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0101828

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS ARE GIVEN OF EXAMINATION OF 382 INHABITANTS OF RURAL LOCALITIES FOR STREPTOCOCCAL CARRIER STATE. OF THIS NUMBER 121 HAD RHEUMATISM, 37 CHRONIC TONSILLITIS, 10 INFECTIOUS NONSPECIFIC POLYARTHRITIS AND 214 PERSONS WERE PRACTICALLY HEALTHY. THE DATA OBTAINED SHOWS THAT THE STREPTOCOCCAL CARRIER STATE IN THE PHARYNX OF HEALTHY INDIVIDUALS REACHED 22.9 PLUS OR MINUS 9.08PERCENT, IN PATIENTS WITH RHEUMATISM 40.5 PLUS OR MINUS 14.11PERCENT, WITH CHRONIC TONSILLITIS 37.8 PLUS OR MINUS 25.21PERCENT. HEMOLYTIC STREPTOCOCCUS OF GROUP A WAS DETECTED MOST COMMONLY ESPECIALLY IN PATIENTS WITH RHEUMATISM. THE HEMOLYTIC STREPTOCOCCUS WAS MORE FREQUENTLY DETECTED IN MEMBERS OF A RHEUMATIC FAMILY (53.5 PLUS OR MINUS 19.75PERCENT) THAN IN HEALTHY INDIVIDUALS (20.0 PLUS OR MINUS 5.97PERCENT). A HIGH PROPAGATION OF STREPTOCOCCUS IN PATIENTS WITH RHEUMATISM AND INTENSIVE STREPTOCOCCAL SURROUNDING IN RHEUMATIC FAMILIES REQUIRE A MORE PROLONGED AND PERSISTENT BICILLIN PROPHYLAXIS, EVEN TO BE CONDUCTED ALL YEAR ROUND.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--2306170  
TITLE--REGENERATION OF BENZENESULFONIC ACID AS A CATALYST FOR THE  
ALKYLATION OF PHENOL BY OLEFINS -U-  
AUTHOR-(02)-BOBYLEV, V.V., KOSTYUCHEV, V.M.  
COUNTRY OF INFO--USSR  
SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (2), 13-14  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--BENZENE, SULFONIC ACID, AMMONIUM SALT, SULFURIC ACID,  
ALKYLATION, PHENOL, ALKENE, CATALYST  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1997/0565 STEP NO--UR/0318/70/000/002/0013/0014  
CIRC ACCESSION NO--AP0119483  
UNCLASSIFIED



2/2 008

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119483

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BENZENESULFONIC ACID (I) WAS CONVERTED INTO ITS NH SUB4 SALT AFTER ALKYLATION. THE AQ. SOLN. OF THE LATTER WAS TREATED WITH A 40PERCENT H SUB2 SO SUB4 SOLN., THE I SEPD. WAS EXTD. WITH CCL SUB4, AND THE LATTER DISTD. OFF, GIVING I SUITABLE AS A CATALYST FOR ALKYLATION. I WAS ALSO REGENERATED BY PASSING ITS NH SUB4 SALT SOLN. THROUGH A H CATION EXCHANGER, THE BEST EXCHANGE DEGREE BEING 40PERCENT.

UNCLASSIFIED

1/2 006 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--CONTINUOUS ALKYLATION OF PHENOL IN THE PRESENCE OF BENZENESULFONIC  
ACID ON INDUSTRIAL APPARATUS -U-  
AUTHOR--(05)-TEMIRGALIYEV, I.G., MITZOFANOV, M.G., BOBYLEV, V.V., DEREKH,  
P.A., RUMYANTSEV, A.G.  
COUNTRY OF INFO--USSR  
SOURCE--NEFTEPEKERAB. NEFTEKHIM. (MOSCOW) 1970, (5), 20-1 (RUSS) B  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--AKLYLPHENOL, BENZENE, SULFONIC ACID, INDUSTRIAL PRODUCTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3006/1076 STEP NO--UR/0318/70/000/005/0020/0021  
CIRC ACCESSION NO--AP0134765  
UNCLASSIFIED

2/2 006

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0134765

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY CONTINUOUS AS COMPARED WITH PERIODIC ALKYLATION, THE PRODUCTION OF ALKYL PHENOLS WAS INCREASED FROM 50-60 TO 90-180 KG-HR PER M PRIME3 REACTION VOL., PHOH CONVERSION TO SMALLER THAN OR EQUAL TO 98PERCENT, THE COMPN. AND COLOR OF ALKYLATION PRODUCTS WAS CONST., AND THE PROCESS COULD BE READILY CONTROLLED. THE CONTINUOUS PROCESS AND ELIMINATION OF WATER WASHING OF THE ALKYL PHENOLS PRODUCED FOR PREPN. OF ADDITIVES HAD HIGH ECONOMIC EFFICIENCY. FACILITY: NEFTEPERERAB. ZAVOD, VOLGOGRAD, USSR.

UNCLASSIFIED

USSR

UDC 669.14.018.29

GLADSHTEYN, L. I., BOBYLEVA, L. A., and LITVINENKO, D. A., Central Scientific Research and Planning Institute of Steel Construction and Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"Increase of Cold Resistance of High-Strength Structural Steel"

Moscow, Stal', No 6, Jun 73, pp 541-546

Abstract: The effect of moderate additions (up to 1.6%) of nickel to high-strength 12G2MF steel (without boron) and to the C-Mn-V system with boron was investigated with a view to increase the cold resistance on experimental melt of 17-kg ingots from induction-arc furnace rolled to 20-mm sheets. Small additions of Ni(0.5-1.0%) somewhat raised the resistance to brittle failure of C-Mn-V-B system steel, but a further increase did not give positive results; at  $\sim 2.5\%$  Ni content, the cold resistance of C-Mn-V-B type steel lowered, and a rise of tempering temperature up to  $690^{\circ}\text{C}$  did not result in any improvement. Effects of the hardening temperature, the welding method, and of the grain size on mechanical properties and the sectional distribution of hardness were investigated. Thirteen figures, two tables, eleven bibliographic references.

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1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--CHROMATOGRAPHIC ANALYSIS OF THE PRODUCTS OF THE CATALYTIC  
HYDROGENATION OF ADIPONITRILE -U-  
AUTHOR--(03)--TROFILKINA, V.P., BOBYLEVA, L.I., SLAVNOVA, A.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 388-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHROMATOGRAPHIC ANALYSIS, CATALYTIC HYDROGENATION, ORGANIC  
NITRILE COMPOUND, SILICONE, HEXAMETHYLENEDIAMINE/(U)PFMS4 SILICONE OIL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2175

STEP NO--UR/0015/70/025/002/0389/0389

CIRC ACCESSION NO--AP0125755

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125755

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HYDROGENATION PRODUCTS OF ADIPCNITRILE CCNTG. LARGER TAHN 15 WT. PERCENT H SUB2 O CAN BE RAPIDLY ANALYZED WHEN NONPOROUS TEFLON AS A SOLID SUPPORT AND SILICONE OIL PFMS-4 AS A STATIONARY LIQ. PHASE ARE USED. A H FLOW OF 78 ML-MIN ON A COLUMN, 1 M LONG AND 6 MM DIAM., AT 175DEGREES WERE USED. HEXAMETHYLENIMINE, HEXAMETHYLENEDIAMINE, EPSILON AMINOCAPRONITRILE AND ACETYLPYPERIDINE WERE FOUND. FACILITY: STATE SCI.-RES. DES. INST. NITROGEN IND. PROD. URG. SYN., MOSCOW, USSR.

UNCLASSIFIED

USSR

FADDEYEVA, M. I., BASKAKOV, YU. A., BOBYLEVA, S. S., ASTAF'YEVA, L. S.,

"Synthetic Method for Hydantoin Derivatives"

USSR Author's Certificate No 364611, filed 22 Jun 70, published 27 Feb 73  
(from RZh-Khimiya, No 19, Oct 73, Abstract No 19N582P)

Translation: Hydantoin derivatives (I) of the series  $RNCON(R')COCHR''$  ( $R, R', R''$  = acryl or alkyl;  $X = S$  or  $O$ ) are obtained by the reaction of respective 6-Cl-I with the  $R''XH$  type compound in presence of  $HCl$  (gas) acceptor. 2.59 g of 1,3'-ClC<sub>6</sub>H<sub>4</sub>-3-Me-5Cl-I dissolved in 50 ml alcohol is refluxed for 7-8 hrs and evaporated yielding 2.62 g II ( $R = 3'ClC_6H_4$ ,  $R' = Me$ ,  $R'' = Et$ ,  $X = O$ ), m.p. 63-65° (petr. ether). Analogously II are obtained ( $R, R', R'', X$ , yield in %, m.p. in °C being reported): Ph, Me, Me, O, 97.8, 58-60 (petr. ether); Ph, Me, Et, O, 96.8, 98-100 (petr. ether); Ph, Me, m-ClC<sub>6</sub>H<sub>4</sub>, O, 82.1, 120-2 (alc); Ph, Me, o-ClC<sub>6</sub>H<sub>4</sub>, O, 80, 136 (benz. petr. ether); Ph, Me, 2,4',6'-Cl<sub>3</sub>C<sub>6</sub>H<sub>2</sub>, O, 75, 127-9; Ph, Me, iso-Pro, S, 119-120.

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USSR

UDC 616.988.75-084.47 "1969"

BOBYLEVA, T. K., SLEPUSHKIN, A. N., RUSSINA, A. Ye., VITKINA, B. S., GRINEBERG, I. R., TARASOV, A. A., LIVERGAND, M. I., and ZHDANOV, V. M., Institute of Virology imeni Ivanovskiy, Academy of Sciences USSR, and Smolenskaya Oblast Sanitary Epidemiological Station

"Evaluation of the Efficacy of Mass Vaccinations Against Influenza" Report III

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii No 9, 1971, pp 18-23

Abstract: Double vaccination of approximately 50% of the population of the city of Smolensk with live influenza vaccine in 1968 proved to be effective in controlling the disease even during the 1969 epidemic caused by a new antigenic variant of type A influenza virus. Almost half as many contracted the disease as in the nearby cities of Vitebsk and Kaluga, where the population was not vaccinated -- 28.8, 54.3 and 48.7%, respectively. The difference between the adult sick rates was even greater -- 17.9, 38.1, and 41.2%, respectively. The side effects of the vaccine were minimal. The results of a similar mass vaccination program in Yartsevo were poor mainly because vaccine from the same strain had been used for three successive years and most of the people had become immune to it. Hence the vaccine strains should be changed periodically (once every 2 or 3 years).

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USSR

VITKINA, B. S., RUSSINA, A. Ye., BOBYLEVA, T. K., GRINEBERG, I. R., SOKOLOVA, N. N., DREYZIN, R. S., and SLEPUSHKIN, A. N., Smolenskaya Oblast Sanitary Epidemiological Station, and Institute of Virology imeni D. I. Ivanovskiy, USSR Academy of Medical Sciences

"Etiology and Epidemiology of the 1969 Influenza Outbreak in Smolensk"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 71, p 494

Translation: The paper presents results of a study of the 1969 influenza outbreak in Smolensk, where almost one-half of the inhabitants had received live influenza vaccines during the preceding five autumn and winter seasons. The disease developed more gradually than during the two previous epidemics (1965 and 1967). Influenza virus was isolated from 127 out of 355 patients. A study of the antigenic structure of 20 strains revealed that all strains were neutralized by 1/68 Hong Kong serum either completely or to one-half of the homologous titer. No essential differences were found between strains obtained from vaccinated and nonvaccinated individuals. All strains were highly sensitive to the inhibitors present in normal guinea pig or horse serum. Serological shifts in the patients coincided with the epidemic influenza curve. The frequency of influenza diagnosed among 235 clinic patients was compared with that of 304

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USSR

VITKINA, B. S., et al, Voprosy Virusologii, No 4, Jul/Aug 71, p. 494

hospitalized patients. Serological confirmation of the diagnosis was 8% greater among the hospitalized group. However, at the end of the epidemic, when morbidity returned to almost normal level, influenza was twice as frequent in clinic than in hospitalized patients. Comparison of the frequency of influenza and of other acute respiratory diseases recorded during the interepidemic year of 1968 and during the epidemic in 1969 revealed that the frequency of parainfluenza and of adenoviral infections was approximately the same during both periods.

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USSR

UDC: 621.315.3

CHUNIN, D. A., BOBYLEVA, T. M., SHMYREVA, M. F., SIVAKOV, P. M.

"Investigation of the Stability and Heat Resistance of Microwires"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiokomponenty (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 1, pp 66-76 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V417)

Translation: The paper outlines the results of investigations of the stability of electrical properties of microwires during aging under natural conditions and under high-temperature conditions. Empirical relationships are given for the change in parameters. A graphic-analytical method is presented for predicting storage life. Resumé.

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USSR

UDC 576.851.132.095:576.858.8

BOBYR, A. D., and DYACHOK, V. V., Institute of Microbiology and Virology,  
Academy of Sciences Ukrainian SSR

"Antiviral Properties of Some Bacteria of the Genus *Pseudomonas*"

Kiev, *Mikrobiologicheskii Zhurnal*, Vol 33, No 5, Sep/Oct 71, pp 562-568

Abstract: The effect of culture liquids of 24 strains of *Pseudomonas* belonging to 15 species was determined in tests conducted in vitro with tobacco mosaic virus and in vivo with isolated leaves of *Nicotiana glutinosa* infected with the virus. The culture liquids of seven strains (*Ps. aeruginosa* 16 l. and 36 l., *Ps. radiobacter* Samosudov and 137/2, *Ps. syringae* 465, and *Ps. fluorescens* 1152 and 8326) inhibited the virus to the extent of 42.2-79.2 percent. In tests with infection of *N. glutinosa* leaves, the prophylactic effect of the culture liquids was more pronounced than their therapeutic effect. The composition of the culture medium (Hottinger broth or a potato decoction), the length of time of contact of the liquid with the virus in vitro, and the state of the viral infection, had a definite effect on the antiviral activity of the bacterial metabolic products. The culture liquids of *Ps. radiobacter* 137/2, *Ps. aeruginosa* 16 l., and *Ps. aeruginosa* 36 l., applied to tobacco and potato plants under field conditions to determine the prophylactic effect, reduced the accumulation of 5-6 phytopathogenic viruses (tobacco mosaic virus, 1/2

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BOBYR, A. D., and DYACHOK, V. V., Mikrobiologicheskii Zhurnal, Vol 33, No 5, Sep/Oct 71, pp 562-568

tomato bronzing virus, and viruses X, Y, S, and M of potato mosaic) by 35-80 percent. When potato tubers had been soaked in the culture liquid of *Ps. aeruginosa* 16.1. before planting, the potato yield was increased. Five-fold spraying of plants in the field with the culture liquid of *Ps. aeruginosa* 16 1. or *Ps. radiobacter* 137/2 not only was ineffective in increasing the yield of tobacco of the Havana variety or of potatoes of the variety Priyekul'skiy ranniy, but even reduced the yield in some cases, while spraying with the culture liquids that had been combined with the antibiotic imanin increased the yields by 13.8-16.7 percent.

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UDC 663.13.576.858.8

MOSKOVETS', S. M., KOVALENKO, O. G., and BOBYR, A. D., Institute of Microbiology and Virology, Academy of Sciences Ukrainian SSR

"Some Physical and Physico-Chemical Properties of Antiviral Products of Yeast Metabolism"

Kiev, Doklady Akademii Nauk Ukrainskoy SSR, No 2, Jan 71, pp 172-174

Abstract: Physical and physico-chemical properties of antiviral substances in the yeast extract and culture fluid of *Candida tropicalis* 3B and *Candida arborea* KAM-1 were studied by subjecting them to the action of various factors, followed by testing their inhibitory activity against potato X-virus and tobacco mosaic virus. Biological activity of the viruses was determined by infecting indicator plants *Datura stramonium* L. and *Gomphrena globosa* L. It was determined that the substances studied are thermally stable (they are not deactivated by heating to 100°C for 10-15 min), do not penetrate through a cellophane membrane in the process of dialysis, and are not precipitated during ultracentrifugation in the range 100,000 -- 200,000 for 204 hrs. In ethanol these substances precipitate partially out of dilute solutions. Attempts to isolate inhibitors from the biological mixture by means of paper chromatography in the system n-butanol:acetic acid:water 1/2

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MOSKOVETS', S. M., et al., Doklady Akademii Nauk Ukrainskoy SSR, No 2,  
Jan 71, pp 172-174

(4:1:5) and in 80% aqueous ethanol showed that the most active antiviral  
fraction was found at the origin of the chromatographic strip or close to it.

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USSR

UDC 536.023

BOBYR', A. N., VALPETER, M. V., and TEMKIN, A. G.

"Apparatus for Complex Studies on Thermophysical Characteristics of Materials Over a Wide Temperature Range"

V sb. "Teploprovodnost' i diffuziya". T.1, Vyp.1 (From the Collection of Works "Thermal Conductivity and Diffusion," Vol 1, No 1), Piga, 1969, pp 37-44 (from RZh-Teploenergetika, No 5, May 70, Abstract No 5672, by L. K. Boronin)

Translation: The described apparatus permits determination of KTPR (coefficient of thermal conductivity)  $\lambda$ , thermal conductivity  $a$ , and thermal capacity  $c_p$  of solid and formulated materials. The device can operate in stationary or non-stationary modes. A treated specimen consists of two identical cylinders between which the main heater is placed. Automatic compensation for heat loss eliminates heat effusion from the specimen side surfaces; thus the temperature field is artificially maintained along one axis. Specimen temperatures are sensed by three thermocouples, so that the temperature field at any moment can be reconstructed by means of a series expansion. The parameter  $a$  can be approximated in this manner.

1/2



USSR

BOBYR', A. N., et al., V sb. "Teploprovodnost' i diffusiya". T. 1, Vyp 1 (from the collection of works "Thermal Conductivity and Diffusion," Vol 1, No 1), 1969, pp 37-44 (from RZh-Teploenergetika, No 5, May 70, Abstract No 5G72)

In the stationary mode,  $\lambda$  is determined from heater power and temperature differentials. From the relationship between  $\alpha$ ,  $\lambda$ ,  $C_p$  and density, the value of  $C_p$  is found. A detailed description is included of the circuit for automatic heat loss compensation. Two figures, seven references.

L. K. Boronin

2/2

USSR

UDC: 621.372.852.1

FIRSOV, Ye. L., MEL'NIK, A. I., ~~BOBYSHEV, V. M.~~

"A Measurement Cavity for an Electron Paramagnetic Resonance Spectrometer"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 329655, Division E, filed 30 Jun 70, published 9 Feb 72, p 221


Translation: This Author's Certificate introduces a measurement cavity for an electron paramagnetic resonance spectrometer. As a distinguishing feature of the patent, the space factor of the cavity is optimized, and the sensitivity of the spectrometer is accordingly maximized when studying specimens with high dielectric losses by partially shielding the specimen from the electromagnetic field of the cavity. Shielding is accomplished by two sections of current-conducting tube or a conductive helix if the cavity is rectangular, and by the inner conductor of the cavity if it is coaxial.

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USSR

UDC 539.173.3

  
KOMAR, A. P., Academician of the Academy of Sciences Ukrainian SSR,  
~~BOCHAGOV, B. A.~~, KOTOV, A. A., SEMENCHUK, G. G., and SOLYAKIN, G. YE.,  
Physicotechnical Institute imeni A. F. Ioffe, Academy of Sciences  
USSR, Leningrad

"Nucleonic Composition and Excitation Energies of Fissioning Nuclei  
in Irradiation of Bi-209, Pb-208, and Au-197 Targets With Photons With  
Energy  $E_{\gamma\text{max}} = 1 \text{ GeV}$ "

Moscow, Doklady Akademii Nauk SSSR, Vol 190, No 6, 1970, pp 1308-1311

Abstract: The authors determine the nucleonic composition  $A, Z$  and  
excitation energy  $E_{\text{exc}}$  of fissioning nuclei by using data on fission  
product characteristics, particularly the effect of a decrease in  
the kinetic energy of fragments with the escape of neutrons from  
them and the calculation of the mass and energy distributions of frag-  
ments at a given nucleus temperature. The article uses results relat-  
ing only to light Bi-209 and Au-197 target nuclei, cited in an earlier

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KOMAR, A. P., et al., Doklady Akademii Nauk SSSR, Vol 190, No 6, 1970, pp 1308-1311

article by the authors, as well as new data for a Pb-208 target and refined data for an Au-197 target calibrated according to Cf-252 fragments. The initial formula for the authors' calculations was the Seaborg-Viola formula for the mean kinetic energy of fragments  $E_k^i$  prior to escape of neutrons from them.

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USSR

Automatic Control: Systems

UDC: 621.317.799:621.318.1.042.13

BOCHANOV, Ye. Ye., IKONNIKOV, S. N.

"Pulse Method of Measurement of Magnetostriction of Cylindrical Magnetic Films"

Tr. Mosk. Aviats. In-Ta [Works of Moscow Aviation Institute], No 233, 1971, pp 207-212 (translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 3, 1972, Abstract No 3 A345 by A. B.)

Translation: A method is studied for testing cylindrical magnetic films with circular anisotropy, deposited on an elastic conducting substrate. In the device produced by this method, a wire rod with a film is fastened on the axis of a solenoid, creating a homogeneous magnetic field. The program of current pulses in the circuit with the film contains 2 synchronized sequences of different polarity and frequency, sufficient for saturation of the film. The signal from the film is displayed on an oscilloscope, synchronized with high-frequency pulses. 2 figures; 4 references.

1/1

USSR

UDC: 519.1

BOCHANOVA, N. N.

"On Analyzing the Dynamic State of a Finite Automaton"

Kiev, Probl. nadezhnosti sistem upr.--sbornik (Problems of Reliability of Control Systems--collection of works), "Nauk. dumka", 1973, pp 78-82 (from RZh-Matematika, No 9, Sep 73, abstract No 9v429)

Translation: A model is proposed for random delays of an asynchronous finite automaton which accounts both for delays of logic elements and for delays of communications lines. A method is given for analyzing the behavior of automata in this model.

1/1

88780

9,2100 (1001, 1145)

S/019/60/000/024/014/123  
A156/A027

AUTHOR: Bochkarev, B.A.

TITLE: A Method for Manufacturing Thin-Layer Nonwire Electrical Resistances

PERIODICAL: Byulleten' izobreteniy, 1960, No. 24, pp. 22-23

TEXT: Class 21c, 54<sup>05</sup>. No. 134306 (658335/24 of March 14, 1960). 1. This method is used for the manufacture of electrical resistances from metal-silicon alloys. In order to increase the specific resistance of the conducting layer, the above-mentioned alloys are supplemented with up to 20% of lanthanoides. 2. The conducting layer is obtained by means of sublimation of a mechanic mixture of metal-silicon powders and lanthanoid oxide in a vacuum. ✓

Card 1/1

~~SECRET~~

9.2100

80994

S/019/60/000/04/103/315  
D038/D006

AUTHOR: Bochkarev, B.A.

TITLE: A Wireless Non-Inductive Resistor,<sup>5</sup>

PERIODICAL: Byulleten' izobreteniy, 1960, Nr 4, p 24 (USSR)

ABSTRACT: Class 21c, 54<sup>05</sup>. Nr 126168 (625780/24 of 14 April 1959). 1)  
A resistor with a conductor consisting of spirals with  
opposite turn direction. The spirals are formed of a  
conductive mass filling the spiral grooves, which are  
placed on opposite planes of a flat insulating base.  
2) Resistor as per para 1) with an insulating base in  
the shape of a parallelepiped and a partition set on one  
edge. The partition is designed for connecting spirals  
placed on two opposite sides on the base.

Card 1/1



85835

9.2100 (1135, 1145, 1601)

S/019/60/000/017/013/070  
A152/A029

AUTHOR: Bochkarev, B.A.

TITLE: A Method for Producing Contact Units for Electric Nonwire Resistances

PERIODICAL: Byulleten' izobreteniy, 1960, No. 17, p. 27

TEXT: Class 21c, 54<sup>05</sup>. No. 131385 (643747/24 of November 12, 1959). This contact unit is intended for improving the electric contact between the metal cap and current-conducting layer, between which a current-conducting metal is applied to the inner surface of the cap or to the end of the insulation base which is covered with a current-conducting layer. It has the following special feature: in order to achieve a stable electric contact for the above-mentioned metal cadmium is used, which upon a subsequent heating of the assembled resistance is transformed into a cadmium oxide in an oxidizing air medium.

Card 1/1

SOV/19-59-3-89/306

8(2)

AUTHOR: Bochkarev, B.A.

TITLE: A Method of Making Current-Carrying Electrodes With Contact Caps or a Head for Carbon Resistors.

PERIODICAL: Byulleten' izobreteniy, 1959, Nr 3, p 26 (USSR)

ABSTRACT: Class 21c, 54<sup>05</sup>. Nr 117932 (596345 of 5 April 1958). 1) This new method is intended to obtain a reliable connection between the cap or the head and the wire electrode. The end of the electrode is flashed off by an electric arc, and the resultant small metallic ball is used for making the cap or the head, which form an integral part of the electrode. 2) To make a cap or head of a material different from that of the wire electrode, the end of the latter is flashed off with a spiral or tube (placed over the electrode) made of a metal which produces the required fusion with the metal of the electrode.

Card 1/1

BOCHAREV, V. A.

metallurgy

INFLUENCE OF CHROMIUM, MANGANESE, AND CONDITIONS OF HEAT TREATMENT ON  
THE COLD-SHORTNESS OF TYPE 30Kh2GN2 STEEL

UDC 539.56:669.26/76:621.765

[Article by Yu. M. Maslova, V. A. Bocharev, T. A. Korneeva; Novosibirsk, Khimicheskoye Stal' i Stal'nykh Konstruktsiy. Russian, signed to press 6 August 1970. pp 179-180]

The study of cold-shortness was done on medium-alloy cast steel type 30Kh2GN2 by the method of determining the magnitude of the impact strength on Henage-type test bars 10 x 10 x 55 mm in size at test temperatures of +20, -20, -40, and -600 C and energy of static bending on the samples 10 x 10 x 55 mm in size with an angular notch (angle of opening, 60°, depth of notch 2 mm,  $r = 0.2$  mm) at test temperatures of -20, -40, -60, and -800 C.

The steel was melted in a 75-ton basic open-hearth furnace.

The specific energy of deformation during static bending was determined by the method of planimetry of the areas of the diagrams obtained by testing samples on a 12-ton machine from the TSIIMASH (Central Scientific Research Institute of Technology and Mechanical Engineering).

By analyzing the test results on static bending, we determined the magnitude of the specific energy of the individual segments of the bending diagram and the presence of a crystalline component in the fractures of the test bars.

#### 1. Loading Velocity and Impact Strength

As we know, the reliability of a metal functioning at low temperatures or at high loading velocities (under impact) is characterized mainly by the tendency to brittle fracture.

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